

## Chapter 2 Section 4: Final Digestion and Absorption

### **Small Intestine (S.I.)**

- Stomach releases thick liquid – little at a time
- Most chemical digestion occurs
- 6 meters long, 2-3 cm wide
- Almost all chemical digestion takes place
- Absorption of nutrients
- Food mixed with enzymes from small int., liver, pancreas
- Liver, pancreas squirt enzymes into S.I.
- Food never enters liver or pancreas

### **Liver**

- Upper right of abdomen
- Largest organ inside body
- Does many chemical functions for body
- For digestion produces bile
- Bile breaks up fat particles into smaller droplets
- Bile is stored in gallbladder
- When needed bile passes from gall bladder into S.I.
- Bile does not chemically digest fat, it physically breaks it up
- Droplets can then be chemically broken down by enzymes

### **Pancreas**

- Triangular organ makes enzymes to digest proteins, starches and fats
- Fiber is not broken down – thickens liquid – making it easier for peristalsis (muscular contractions) to push material through

### **Absorption in S.I.**

- After food is chemically broken down – nutrients are absorbed
- Lining of S.I. is wrinkled or bumpy to increase surface area

- Bumps are called villi
- Nutrients are absorbed through lining into bloodstream
- Total surface area of S.I. is about as large as a tennis court
- Increased surface area allows faster absorption of nutrients

## Large Intestine

- Most nutrients have been absorbed by this time
- Last section of Digestive System
- 1.5 meters long
- Bacteria feed off undigested food. Produce vitamins esp. vitamin K
- Water is absorbed back into the bloodstream
- Waste is readied for elimination
- Last part is a short tube – rectum
- Waste is compressed (squeezed) into solid form for elimination
- Sphincter at end of rectum – anus- regulates when waste is eliminated